IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Young-kook KIM

Application No.	10/822,847	Group Art Unit:	2179
Filed:	April 13, 2004	Examiner	Phenuel S. Salomon
Customer No.:	38209	Confirmation No.	3206

For: METHOD OF INDICATING FUNCTIONS OF BUTTONS, AN IMAGE
        DISPLAY APPARATUS, AND AN ON-SCREEN-DISPLAY MENU
        PROCESSING METHOD

Mail Stop Appeal Brief
Commissioner of Patents and Trademarks
P.O. Box 1450
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APPEAL BRIEF

Sir:

     This Appeal Brief is submitted in support of the Notice of Appeal filed May 4, 2009, wherein Appellant appeals from the Examiner's rejection of claims 1-4, 7, 9, 19-24, 27-29, and 31-82.

Real Party of Interest

     The above-identified patent application is assigned to Samsung Electronics Co., Ltd. by assignment recorded on June 28, 2004, at Reel 015512, Frame 0481.

Related Appeals and Interferences

     None.

Status of Claims

Claims 1-4, 7, 9, 19-24, 27-29, and 31-82 are pending, and stand finally rejected. It is from this final rejection that this Appeal is taken.

Status of Amendments

A Response After Final Rejection, in which no amendments were made to the claims, was filed on March 23, 2009, subsequent to the issuing of the Final Office Action dated February 3, 2009. An Advisory Action was mailed on April 7, 2009, in which the Examiner stated that Appellant's Response was considered, but the Response did not place the above-identified patent application in condition for allowance. A Notice of Appeal and Pre-Appeal Request for Review were filed on May 4, 2009. A Notice of Panel Decision from Pre-Appeal Brief Review was mailed on May 14, 2009, which stated that the above-identified patent application "remains under appeal because there is at least one actual issue for appeal.

Summary of Claimed Subject Matter

In the present application, independent claims 1, 7, 19, 27, 35, 37, 48, 63, and 64 are pending. Independent claim 1 is directed to a method of indicating function buttons in an image display apparatus (see, e.g., FIGS. 2-5, 8, and 10). Independent claim 7 is directed to an image display apparatus (see, e.g., FIG. 8). Independent claim 19 is directed to an image display apparatus having buttons to select items of a display (see, e.g., FIGS. 2-5 and 8). Independent claim 27 is directed to a method of indicating function buttons in an image display apparatus having a screen and a frame with the buttons (see, e.g., FIGS. 2-5 and 8-10). Independent claim 35 is directed to an image display apparatus having a screen and a frame with at least one button (see, e.g. FIGS. 2-5 and 8-10). Independent claim 37 is directed to a device for displaying an image (see, e.g., FIGS. 2-5, 7A, 7B, and 8). Independent claim 48 is directed to a method of controlling a display device having at least one input unit positioned on a housing of the display device (see, e.g., FIGS. 2 and 8-10). Independent claim 63 is directed to a method of controlling a display device having at least one input unit positioned on a housing of the display device (see, e.g., FIGS. 2-5 and 8-10). Independent claim 64 is directed to a method of

controlling a display device having at least one input unit positioned on a housing of the display device (see, e.g., FIGS. 2-5 and 8-10).

Appellant's method of indicating functions of buttons in an image display apparatus (e.g., screen 202 illustrated in FIGS. 2, 4, and 5, image display apparatus 800 illustrated in FIG. 8) as recited in claim 1 includes generating an image indicating functions assigned to the buttons (e.g., FIGS. 2-5, with buttons 212, 214, 216, and 218, and zones 204, 206, 208, and 210 to display images indicating function buttons disclosed in paragraphs [0019] and [0041]; S1004 and S1006 of FIG. 10, paragraphs [0072] - [0074]), and displaying the image (zones 204, 206, 208, and 210 to display images indicating function buttons disclosed in paragraphs [0019] and [0041]; S1008 of FIG. 10, paragraph [0075]) on the image display apparatus. The image is displayed at a position on the image display apparatus close to the buttons (e.g., FIGS. 2-5 and paragraphs [0022] and [0045], where images in zones 204 -210 are respectively close to buttons 212-218). Displaying of the image on the image display apparatus includes detecting a pivot angle of the image display apparatus (e.g., the display apparatus 800 of FIG. 8 includes pivot detector 824 to detect the pivot angle, as disclosed in paragraphs [0023], [0060], [0061], [0065], and [0066]) and displaying the image rotated according to the pivot angle at a position close to the buttons (e.g., images in zones 204 -210 are respectively close to buttons 212-218 when screen 202 is rotated as illustrated in FIG. 4 and disclosed in paragraphs [0023], [0045], [0060], [0061]).

Appellant's image display apparatus (e.g., image display apparatus 800 illustrated in FIG. 8) recited in claim 7 includes an image display unit (e.g., screen 202 illustrated in FIGS. 2-4). A graphics processing unit (e.g., graphics processing unit 822 illustrated in FIG. 8) supplies images (e.g., see output line from graphics processing unit 822 to image display unit 802, as disclosed in paragraphs [0060], [0063] and [0066]) displayed by the image display unit. A controller (e.g., controller 830 illustrated in FIG. 8) sets display parameters of the image display apparatus (e.g., as disclosed in paragraph [0059]), has buttons (e.g., buttons 812-818 illustrated in FIG. 8) for item selection, and performs operations assigned to the buttons (e.g., selection of button 812 activates OSD menu as disclosed in paragraph [0063]). A pivot detector detects a pivot angle of the image display apparatus and supplies pivot angle data to the graphics processing unit (e.g., pivot detector 824 illustrated in FIG. 8 detects a pivot angle as disclosed in paragraphs [0065]-[0066] and supplies the data to graphics processing unit 822). The image

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display unit has zones (e.g., zones 804-810 illustrated in FIG. 8) to display an image indicating functions assigned to the buttons (e.g., buttons 812-818 illustrated in FIG. 8), and the controller generates image information to be displayed in the zones and supplies the image information to the graphics processing unit (e.g., controller 830 generates image information and supplies it to graphics processing unit 822, as disclosed in paragraphs [0059] and [0060], and as illustrated in FIG. 8). The zones to display an image indicating functions assigned the buttons are displayed at a position on the image display apparatus close to the buttons (e.g., zones 804-810 are respectively positioned close to buttons 812-818 as illustrated in FIG. 8 and disclosed in paragraphs [0045], [0057], and [0063]). The graphics processing unit displays the image in the zones rotated according to the pivot angle at a position close to the buttons (e.g., paragraphs [0045], [0060], [0065], and [0066] disclose that the graphics processing unit 822 performs an image rotation process to display a rotated image corresponding to the pivot state of the image display unit 802).

Appellant's image display apparatus (e.g., display apparatus 800 of FIG. 8) having buttons to select items of a display (e.g., buttons 812-818 of FIG. 8) as recited in claim 19 includes an image display unit including zones to display an image indicating functions assigned to the buttons (e.g., image display unit 802 having zones 804-810 that respectively correspond to zones 804-8100 displayed on image display unit 802 of FIG. 8). A graphics processing unit supplies images displayed by the image display unit (e.g., graphics processing unit 822 supplies images to image display unit 802 of FIG. 8 as disclosed in paragraph [0060]). A pivot detector detects a pivot angle of the image display unit and provides the pivot angle detected to the graphics processing unit such that the graphics processing unit supplies an image to the image display unit at a same pivot angle as the image display unit (e.g., pivot detector 824 detects a pivot angle of image display unit 802 and provides the pivot angle to graphics processing unit 822 for display as disclosed in paragraphs [0060], [0061], [0065], and [0066]). A controller sets display parameters of the image display apparatus, performs operations assigned to the buttons, generates image information to be displayed in the zones and supplies the image information to the graphics processing unit (e.g., controller 830 sets parameters for image display apparatus 800, performs operations, and generates image information for zones 804-810 and supplies the image information to the graphics processing unit 822 illustrated in FIG. 8 and as disclosed in paragraphs [0057]-[0066]). The image display unit (e.g., image display unit

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802 of FIG. 8) displays the image in the zones rotated (e.g., zones 804-810 of FIG. 8, and rotated zones 212-218 of FIG. 4) according to the pivot angle at a position close to the buttons (e.g., zones 204-210 are close to buttons 212-218 illustrated in FIG. 4 and disclosed in paragraph [0045]).

Appellant's method of indicating functions of buttons (e.g., operation S1004 illustrated in FIG. 10) in an image display apparatus having a screen and a frame with the buttons (e.g., screen 202 and buttons 212-218 illustrated in FIG. 2) as recited in claim 27 includes generating one of first functions of a first button and one of second functions of a second button to be displayed on the screen (e.g., operations S1004-S1008 in FIG. 10 and disclosed in paragraphs [0070]-[0075], where zone 204 displays the menu function and zone 206 displays the select function as illustrated in FIG. 2 and described in paragraph [0041]). The method includes generating sub-functions of at least one of the first and second buttons according to the generated first and second function, where the generating of the one of the first functions comprises simultaneously generating each set of the first and second functions according to activation of one of the first and second buttons (e.g., FIGS. 6A-6F illustrate functions, sub-functions and multi-functions, as disclosed in paragraphs [0049]-[0054]).

Appellant's image display apparatus having a screen and a frame with at least one button (e.g., image display apparatus 800 having buttons 812-818 and image display unit 802 as illustrated in FIG. 8) as recited in claim 35 includes a graphics processing unit to process at least one function of the respective at least one button to be displayed on the screen at a position corresponding to the at least one button (e.g., graphics processing unit 822 processes functions displayed on image display unit in zones 804-810 that respectively correspond to buttons 812-818 as illustrated in FIG. 8 and disclosed in paragraphs [0057]-[0066]). The display apparatus includes a pivot detector to detect a pivot angle of the image display apparatus and to provide the pivot angle detected to the graphics processing unit such that the graphics processing unit supplies an image to the image display unit at a same pivot angle as the image display apparatus (e.g., the display apparatus 800 includes pivot detector 824 that detects a pivot angle of image display unit 802 and provides the pivot angle to graphics processing unit 822 for display as disclosed in paragraphs [0060], [0061], [0065], and [0066]). A controller sets display parameters of the image display apparatus, to perform the at least one function, to generate the at least one function to be displayed on the screen and to supply the at least one

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function to the graphics processing unit (e.g., controller 830 sets parameters for image display apparatus 800, performs operations, and generates image information for zones 804-810 and supplies the image information to the graphics processing unit 822 illustrated in FIG. 8 and as disclosed in paragraphs [0057]-[0066]). The image display apparatus (e.g., image display apparatus 800 of FIG. 8) displays the image rotated according to the pivot angle at a position close to the at least one button (e.g., paragraphs [0065] and [0066] disclose displaying a rotated image according to the pivot angle, and FIG. 4 illustrates and paragraphs [0045]-[0046] describes displaying the rotated image close to the buttons).

Appellant's device to display an image as recited in claim 37 includes a screen and a housing having an opening and an outer border surface substantially surrounding the opening, where the screen is positioned inside the housing so as to be viewable through the opening (e.g., FIG. 2 illustrates screen 202 having an outer housing with the screen 202 positioned inside the housing). The device to display an image includes at least one input unit being positioned on the housing (e.g., buttons 212-218 are positioned on the housing as illustrated in FIG. 2), wherein the actuation of the at least one input unit allows controlling of a function of the display device (e.g. selection of buttons 212-218 control functions as disclosed in paragraphs [0041]-[0044]). A detector unit detects whether the device is in a portrait mode or in a landscape mode (e.g., pivot detector 824 detects angle of image display unit 802 as disclosed in paragraphs [0061]-[0066], with portrait mode illustrated in FIG. 2 and landscape mode illustrated in FIG. 4 and disclosed in paragraph [0046]). At least one symbol is displayed which is respectively assigned to the at least one input unit, and wherein the orientation of the at least one symbol is changed in accordance with the result of the detector unit, and the at least one symbol, whose orientation is changed, is displayed at a position close to the at least one input unit (e.g. "-" and "+" symbols are displayed in zones 208 and 210, respectively, to buttons 216 and 218, as disclosed in paragraphs [0042]-[0043], and are rotated as illustrated in FIG. 4 and disclosed in paragraph [0046], where the symbols are displayed close to the buttons as disclosed in paragraphs [0045]).

Appellant's method of controlling a display device (e.g., screen 202 of FIG. 2 or image display unit 802 of FIG. 8) having at least one of input unit positioned on a housing of the display device (e.g., buttons 212-218 of FIG. 2 or buttons 812-818 of FIG. 8) as recited in claim 48 includes displaying at least one symbol on a screen, the symbol indicative of a function to

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control the display device, the at least one symbol being assigned to the at least one input unit (e.g., operation S1008 as disclosed in paragraphs [0070]-[0075] and symbols displayed in zones 204-210 correspond to buttons 212-218 as disclosed in paragraphs [0041]–[0046]). The method includes detecting a rotated state of the display device and changing an orientation of the at least one symbol according to the detection of the rotated state of the display device (e.g., FIG. 4 illustrates a rotated display having symbols displayed in zones 208 and 210, where pivot detector 824 illustrated in FIG. 8 detects the rotated state of the display as disclosed in paragraphs [0057]-[0066]). The method includes controlling the function of the display device upon actuation of the at least one input unit, where changing an orientation of the at least one symbol includes displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit (e.g., operations S1004-S1008 illustrated in FIG. 10 and disclosed in paragraphs [0070]-[0075], FIG. 4 illustrates a rotated display having symbols displayed in zones 208 and 210 close to buttons 216 and 218).

Appellant's method of controlling a display device (e.g., image display unit 802 of FIG. 8) having at least one of input unit positioned on a housing of the display device (e.g., buttons 812-818 are positioned on a housing of the display device 800 of FIG. 8) as recited in claim 63 includes displaying at least one symbol on a screen, the symbol indicative of a function to control the display device, the at least one symbol being assigned to the at least one input unit (e.g., symbols "-" and "+" displayed in zones 808 and 810 of FIG. 8 which are displayed close to buttons 816 and 818 which are selectable to control functions as disclosed in paragraphs [0057]-[0066] and [0041-0046]). The method includes changing an orientation of the at least one symbol in accordance with a detection of a viewing state of the screen, in which the viewing state relates to a rotated state of the screen (e.g., FIG. 4 illustrates that symbols displayed in zones 208 and 210 are rotated as screen 202 has been rotated). The method includes controlling the function of the display device upon actuation of the at least one input unit, where changing an orientation of the at least one symbol includes displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit (e.g., operations S1004-S1010 illustrated in FIG. 10 and disclosed in paragraphs [0070-0076]).

Appellant's method of controlling a display device having at least one of input unit positioned on a housing of the display device (e.g., buttons 812-818 positioned on a housing of image display apparatus 800 illustrated in FIG. 8) as recited in claim 64 includes displaying at

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least one symbol on a screen, the at least one symbol indicative of a function to control the display device, the at least one symbol being assigned to the at least one input unit (e.g., operations S1004-S1008 illustrated in FIG. 10 and disclosed in paragraphs [0070]-[0075], where symbols are displayed in zones 808 and 810 that correspond to buttons 816 and 818 as illustrated in FIG. 8). The method includes changing an orientation of the at least one symbol in accordance with a detection of a viewing state of the screen, in which the viewing state relates to a rotated state of the screen (e.g., symbols illustrated in zones 208 and 210 are rotated as illustrated in FIG. 4 and are close to buttons 216 and 218, where pivot detector 824 of FIG. 8 detects the rotation of the screen as disclosed in paragraphs [0057]-[0066]). The method includes controlling the function of the display device upon actuation of the at least one input unit, where the at least one symbol visually corresponds to at least one input unit, the at least one input unit is disposed near the at least one symbol, and the at least one input unit is disposed so as to be substantially flush with the surface of the screen (e.g., symbols illustrated in zones 208 and 210 are rotated as illustrated in FIG. 4 and are close to buttons 216 and 218, where pivot detector 824 of FIG. 8 detects the rotation of the screen as disclosed in paragraphs [0057]-[0066]). The method of claim 64 recites that changing an orientation of the at least one symbol includes displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit (e.g., symbols illustrated in zones 208 and 210 are rotated as illustrated in FIG. 4 and are close to buttons 216 and 218, where pivot detector 824 of FIG. 8 detects the rotation of the screen as disclosed in paragraphs [0057]-[0066]).

Grounds of Rejection To Be Reviewed By Appeal

Appellant respectfully requests that the following be reviewed:

(1)   Whether claims 1 and 65-66 are obvious under 35 U.S.C. §103(a) in view of U.S. Patent No. 9,757,034 to Yu (hereinafter, "Yu"), in view of U.S. Patent No. 5,973,664 to Badger (hereinafter, "Badger"), and further in view of "NEC LCD Series MultiSync User's Manual" of August 22, 1999 (hereinafter, "NEC");

(2)   Whether claims 2-4 are obvious under 35 U.S.C. §103(a) in view of Yu, Badger, and NEC, and further in view of U.S. Patent No. 6,744,259 to Bald (hereinafter, "Bald");

(3) Whether claims 7, 9 and 67-68 are obvious under 35 U.S.C. §103(a) in view of U.S. Patent No. 6,346,972 to Kim (hereinafter, "Kim"), in view of Bald, and further in view of NEC;

(4) Whether claims 19-23 are obvious under 35 U.S.C. §103(a) in view of Bald, Kim, and further in view of NEC;

(5) Whether claim 24 is obvious under 35 U.S.C. §103(a) in view of Bald, Kim, NEC, and further in view of U.S. Patent No. 6,356,287 to Ruberry et al. (hereinafter, "Ruberry");

(6) Whether claims 27-34 and 71-72 are obvious under 35 U.S.C. §103(a) in view of Bald and Yu;

(7) Whether claims 35-36 and 73-74 are obvious under 35 U.S.C. §103(a) as being unpatentable over Bald in view of Yu in view of Kim and further in view of NEC.

(8) Whether claims 37-63 and 75-78 are obvious under 35 U.S.C. §103(a) in view of Yu, Pivot Pro Software 1998-2001 (hereinafter "Pivot Pro") in view of Kim and further in view of NEC; and

(9) Whether claims 64 and 81-82 are obvious under 35 U.S.C. §103(a) in view of Yu, Bald, Pivot Pro, and further in view of NEC.

Argument

A.   Introduction

In rejecting claims 1-4, 7, 9, 19-24, 27-29, and 31-82 under 35 U.S.C. §103(a) in Final Office Action mailed on February 3, 2009, the Examiner alleges that Yu, Badger, NEC, Kim, Bald, and Pivot Pro, teach or suggest features recited in Appellant's claims, as discussed in further detail below.

The Examiner alleges on page 4 of the Final Office Action that NEC discloses "the right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3) [the

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menu will be displayed according to the button position]."

Referring to page 6, paragraph 3, NEC describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, NEC merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not displaying an image that is rotated according to the detected pivot angle at a position close to the buttons. At best, NEC describes displaying the menu in "Landscape" or "Portrait" modes – not that the menu is displayed in a position that is rotated according to the detected pivot angle at a position close to the buttons.

The Examiner alleges on page 7 of the Final Office Action that Bald discloses that the "image display unit has zones to display an image indicating functions assigned to the buttons, and the controller generates image information to be displayed in the zones in the zones and supplies the image information to the graphics processing unit … (fig. 1, items 1-4), (col. 5, lines 36-44)."

Referring to FIG. 1 and col. 5, lines 36-44, Bald illustrates and describes that a "verification menu 30" is displayed and the menu "permits the user to select from among four types of tests to be verified using up and down cursor control arrows activated by softkeys 1 and 2a select key activated by softkey 3, and an exit activated by softkey 4" – not that the verification menu 30 has zones for displaying image information. Bald merely describes at col. 4, line 66 to col. 5, line 5 that the display screen 20 merely is a "display screen capable of displaying the menus and submenus" – Bald fails to teach or suggest anywhere that the display screen 20 has zones or that it displays image information in the zones.

The Examiner further alleges on page 9 of the Final Office Action that Kim discloses "a pivot detector to detect a pivot angle of the image display unit to provide the pivot angle detected to the graphics processing unit such that the graphics processing unit supplies an image to the image display unit at a same pivot angle as the image display unit (col. 5, lines 8-11 and fig. 3)."

Referring to FIG. 3 and col. 5, lines 8-11, Kim illustrates and describes "a pivot controller 840 for outputting storing position control signals 841 and data selection control signals 842 in response to pivot control signals 212 from the controller 200." In other words, Kim describes

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"outputting" storing position control signals and data selection control signals in response to pivot control signals – not displaying an image in the zones that is rotated according to the pivot angle and at a position close to the buttons.

Referring to FIG. 10 and col. 7, lines 51-56 of Kim as relied upon by the Examiner, Kim illustrates and describes that "if the user has turned the display panel 1100 by 90 degrees clockwise," the "letters and figures of the on-screen display 1104 are displayed in the normal manner as seen by the user." In other words, Kim describes displaying the on-screen display 1104 "in the normal manner as seen by the user" after the display panel 1100 has been rotated by 90 degrees -- not at least one symbol whose orientation is changed is displayed at a position close to the at least one input unit. The orientation of the on-screen display 1104 after the display panel 110 has been rotated is unrelated to a position that is close to the input unit (i.e., keypad 1105 of the display panel 1100).

On page 11 of the Final Office Action, the Examiner acknowledges that Bald fails to teach or suggest "generating sub-functions of at least one of the first and second buttons according to the generated first and second function." The Examiner alleges that Yu describes "OSD software to display menu functions and sub functions respective to indicative symbols and buttons (fig. 3)."

Referring to FIG. 3, as well as col. 3, lines 4-7, Yu illustrates and describes that "a user of the flat panel display 10 presses any one of the control buttons 102, which automatically drives the OSD software to display the indicating symbols 302 (see FIG. 3) on the display screen 300" and that the "indicating symbols 302 respectively indicate functions and positions of the function buttons 102 and the power switch button 101." Yu illustrates in FIG. 3 and describes in col. 3, lines 18-33 a "volume adjustment bar 303 appears near the indicating symbols 302" on the flat panel display 10 after the user "presses the second function button 106" thereby selecting to "adjust the volume of the speakers 202." Yu further describes in col. 3, lines 18-33 that

> [g]uided by the indicating symbols 302, the user can press the adjusting buttons 104, 105 to adjust the volume of the speakers 202. When the adjusting button 104 is pressed, the darkened position of the volume adjustment bar 303 extends rightward, and the volume of the speakers 202 is progressively turned up. When the adjusting button 105 is pressed, the adjustment bar 303 recedes leftward,

> and the speakers 202 are progressively turned down. When the second function
> button 106 is pressed a second time, the volume adjustment bar 303 disappears.
> The adjusted speak volume result is stored automatically.

In other words, Yu merely describes displaying and controlling a function such as "volume adjustment," and fails to teach or suggest generating sub-functions of at least one of the first and second buttons according to the generated first and second function. At best, Yu describes that the user "presses the second function button 106" thereby selecting to "adjust the volume of the speakers 202" and that "the user can press the adjusting buttons 104, 105 to adjust the volume" -- not generating sub-functions according to the generated first and second function. There is no generated sub-function associated with the volume adjustment described by Yu, where the generated sub-function is *according to* a generated first and second function.

On page 16 of the Final Office Action, the Examiner alleges that Pivot Pro describes "a detector unit to detect whether the device is in a portrait mode or in a landscape mode (p. 1, para. [001])." Referring to page 1, paragraph 1 of Pivot Pro as relied upon by the Examiner, Pivot Pro describes "software" that "lets you rotate your computer display from landscape to portrait position" – not a detector unit to detect whether the device is in a portrait mode or in a landscape mode.

The Examiner has chosen to ignore the scope of the claims, and has instead developed unreasonable interpretations of Yu, Badger, NEC, Kim, Bald, and Pivot Pro, in an attempt to create a basis for the pending rejections.

B.   Claims 1 and 65-66 Are Not Obvious under 35 U.S.C. § 103(a) in view of Yu Badger, and NEC

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007).

The four factual inquiries under *Graham* are:

(a)   determining the scope and contents of the prior art;

(b)   ascertaining the difference between the prior art and the claims in issue;

(c)   resolving the level of ordinary skill in the pertinent art; and

(d)   evaluating evidence of secondary consideration.

That burden has not been discharged.

1.   Independent Claim 1

Referring to independent claim 1, in the Office Action dated February 3, 2009, the Examiner alleges that Yu, Badger, and NEC in combination with one another disclose all the limitations recited in independent claim 1. In particular, the Examiner alleges on page 4 of the Office Action that NEC discloses "the right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3) [the menu will be displayed according to the button position]." However, it is respectfully submitted that Yu, Badger, and NEC, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 1, for at least the following reasons.

Referring to page 6, paragraph 3 of NEC as relied upon by the Examiner, NEC describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, NEC merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not "displaying the image" that is "rotated" according to the detected "pivot angle" at a "position close to the buttons." At best, NEC describes displaying the menu in "Landscape" or "Portrait" modes – not that the menu is displayed in a position that is "rotated" according to the detected "pivot angle" at a "position close to the buttons." Therefore, Yu, Badger, and NEC, whether taken alone or in combination with one another, fail to teach or suggest, among other things, "detecting a pivot angle of the image display apparatus, and displaying the image rotated according to the pivot angle at a position close to the buttons."

For at least the reasons discussed above, since Yu, Badger, and NEC, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 1, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

2.   Dependent Claims 65-66

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 1 is patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

C.   Claims 2-4 Are Not Obvious under 35 U.S.C. § 103(a) in view of Yu, Badger, and NEC, and Bald

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1.   Dependent Claims 2-4

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 1 is patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

D.   Claims 7, 9, and 67-68 Are Not Obvious under 35 U.S.C. § 103(a) in view of Kim, Bald, and NEC

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner

is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1.   Independent Claim 7

Referring to independent claim 7, in the Office Action dated February 3, 2009, the Examiner alleges that Kim, Bald, and NEC in combination with one another disclose all the limitations recited in independent claim 7. In particular, the Examiner alleges on page 7 of the Office Action that Bald discloses that the "image display unit has zones to display an image indicating functions assigned to the buttons, and the controller generates image information to be displayed in the zones in the zones and supplies the image information to the graphics processing unit ... (fig. 1, items 1-4), (col. 5, lines 36-44)." The Examiner further alleges in the Office Action that NEC discloses that the "right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3)[the menu will be displayed according to the button position]." However, it is respectfully submitted that Kim, Bald, and NEC, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 7, for at least the following reasons.

Referring to FIG. 1 and col. 5, lines 36-44 of Bald as relied upon by the Examiner, Bald illustrates and describes that a "verification menu 30" is displayed and the menu "permits the user to select from among four types of tests to be verified using up and down cursor control arrows activated by softkeys 1 and 2a select key activated by softkey 3, and an exit activated by softkey 4" – not that the "verification menu 30" has "zones" for displaying "image information." Bald merely describes at col. 4, line 66 to col. 5, line 5 that the display screen 20 merely is a "display screen capable of displaying the menus and submenus" – Bald fails to teach or suggest anywhere that the display screen 20 has "zones" or that it displays "image information" in the "zones." Therefore, Kim, Bald, and NEC, whether taken alone or in combination with one another, fail to teach or suggest, among other things, "the image display unit has zones to display an image indicating functions assigned to the buttons, and the controller generates image information to be displayed in the zones and supplies the image information to the

graphics processing unit" as recited in claim 7.

Referring to page 6, paragraph 3 of <u>NEC</u> as relied upon by the Examiner, <u>NEC</u> describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, <u>NEC</u> merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not "display[ing] the image" in the "zones" that is "rotated" according to the detected "pivot angle" at a "position close to the buttons." At best, <u>NEC</u> describes displaying the menu in "Landscape" or "Portrait" modes – not that the menu is displayed in a position that is "rotated" according to the detected "pivot angle" at a "position close to the buttons." Therefore, <u>Kim</u>, <u>Bald</u>, and <u>NEC</u>, whether taken alone or in combination with one another, fail to teach or suggest, among other things, "that the graphics processing unit displays the image in the zones rotated according to the pivot angle at a position close to the buttons" as recited in claim 7.

For at least the reasons discussed above, since <u>Kim</u>, <u>Bald</u>, and <u>NEC</u>, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 7, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

2. Dependent Claims 9, 67, and 68

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 7 is patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

E. Claims 19-23 Are Not Obvious under 35 U.S.C. § 103(a) in view of Bald, Kim, and NEC

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1.   Independent Claim 19

Referring to independent claim 19, in the Office Action dated February 3, 2009, the Examiner alleges that Bald, Kim, and NEC in combination with one another disclose all the limitations recited in independent claim 19. In particular, the Examiner alleges on page 8 of the Office Action that Bald discloses "an image display unit including zones to display an image indicating functions assigned to the buttons (fig. 1, items 1-4)." The Examiner further alleges on page 9 of the Office Action that Kim discloses "a pivot detector to detect a pivot angle of the image display unit to provide the pivot angle detected to the graphics processing unit such that the graphics processing unit supplies an image to the image display unit at a same pivot angle as the image display unit (col. 5, lines8-11 and fig. 3)." The Examiner alleges further still that NEC discloses the "right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3)[the menu will be displayed according to the button position]." However, it is respectfully submitted that Bald, Kim, and NEC, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 19, for at least the following reasons.

Referring to FIG .1 of Bald as relied upon by the Examiner, as well as col. 5, lines 36-44, Bald illustrates and describes that a "verification menu 30" is displayed and the menu "permits the user to select from among four types of tests to be verified using up and down cursor control arrows activated by softkeys 1 and 2a select key activated by softkey 3, and an exit activated by softkey 4" – not that the "verification menu 30" displayed on display screen 20 has "zones." Bald merely describes at col. 4, line 66 to col. 5, line 5 that the display screen 20 merely is a "display screen capable of displaying the menus and submenus" – Bald fails to teach or suggest anywhere that the display screen 20 has "zones" or that it displays an "image in the zones" that is "rotated according to the pivot angle" at a position close to the buttons."

Referring to FIG. 3 and col. 5, lines 8-11 of Kim as relied upon by the Examiner, Kim illustrates and describes "a pivot controller 840 for outputting storing position control signals 841 and data selection control signals 842 in response to pivot control signals 212 from the

controller 200." In other words, <u>Kim</u> describes "outputting" storing position control signals and data selection control signals in response to pivot control signals – not displaying an "image in the zones" that is "rotated according to the pivot angle" and "at a position close to the buttons."

Referring to page 6, paragraph 3 of <u>NEC</u> as relied upon by the Examiner, <u>NEC</u> describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, <u>NEC</u> merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not "display[ing] the image" in the "zones" that is "rotated" according to the detected "pivot angle" at a "position close to the buttons." At best, <u>NEC</u> describes displaying the menu in "Landscape" or "Portrait" modes – not that the menu is displayed in a position that is "rotated" according to the detected "pivot angle" at a "position close to the buttons."

Therefore, for at least the above reasons, <u>Bald</u>, <u>Kim</u>, and <u>NEC</u>, whether taken alone or in combination with one another, fail to teach or suggest, among other things, "an image display unit including zones to display an image indicating functions assigned to the buttons" and where the "image display unit displays the image in the zones rotated according to the pivot angle at a position close to the buttons" as recited in claim 19.

For at least the reasons discussed above, since <u>Bald</u>, <u>Kim</u>, and <u>NEC</u>, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 19, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

2.   Dependent Claims 20-23

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 19 are patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

F.   Claim 24 is Not Obvious under 35 U.S.C. § 103(a) in view of Bald, Kim, NEC and Ruberry

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1.   Dependent Claim 24

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 19 are patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

G. Claims 27-34 and 71-72 are Not Obvious under 35 U.S.C. § 103(a) in view of Bald and Yu

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1.   Independent Claim 27

Referring to independent claim 27, in the Office Action dated February 3, 2009, the Examiner alleges that Bald and Yu in combination with one another disclose all the limitations recited in independent claim 27. On page 11 of the Office Action, the Examiner acknowledges and Appellant agrees that Bald fails to teach or suggest "generating sub-functions of at least one of the first and second buttons according to the generated first and second function." The

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Examiner alleges that Yu describes "OSD software to display menu functions and sub functions respective to indicative symbols and buttons (fig. 3)." The Examiner further contends that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to include Yu sub-function feature[s] in Bald. One would have been motivated to do so in order to optimize screen real estate." However, it is respectfully submitted that Bald and Yu, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 19, for at least the following reasons.

Referring to FIG. 3 of Yu as relied upon by the Examiner, as well as col. 3, lines 4-7, Yu illustrates and describes that "a user of the flat panel display 10 presses any one of the control buttons 102, which automatically drives the OSD software to display the indicating symbols 302 (see FIG. 3) on the display screen 300" and that the "indicating symbols 302 respectively indicate functions and positions of the function buttons 102 and the power switch button 101." Yu illustrates in FIG. 3 and describes in col. 3, lines 18-33 a "volume adjustment bar 303 appears near the indicating symbols 302" on the flat panel display 10 after the user "presses the second function button 106" thereby selecting to "adjust the volume of the speakers 202." Yu further describes in col. 3, lines 18-33 that

> [g]uided by the indicating symbols 302, the user can press the adjusting buttons 104, 105 to adjust the volume of the speakers 202. When the adjusting button 104 is pressed, the darkened position of the volume adjustment bar 303 extends rightward, and the volume of the speakers 202 is progressively turned up. When the adjusting button 105 is pressed, the adjustment bar 303 recedes leftward, and the speakers 202 are progressively turned down. When the second function button 106 is pressed a second time, the volume adjustment bar 303 disappears. The adjusted speak volume result is stored automatically.

In other words, Yu merely describes displaying and controlling a function such as "volume adjustment," and fails to teach or suggest "generating sub-functions of at least one of the first and second buttons according to the generated first and second function." At best, Yu describes that the user "presses the second function button 106" thereby selecting to "adjust the volume of the speakers 202" and that "the user can press the adjusting buttons 104, 105 to adjust the volume," *not* "generating sub-functions "according to the "generated first and second function." There is no generated "sub-function" associated with the "volume adjustment" described by Yu, where the generated sub-function is *according to* a "generated first and

second function."

Therefore, for at least the above reasons, <u>Bald</u> and <u>Yu</u>, whether taken alone or in combination with one another, fail to teach or suggest, among other things, "generating sub-functions of at least one of the first and second buttons according to the generated first and second function" as recited in claim 27.

For at least the reasons discussed above, since <u>Bald</u> and <u>Yu</u>, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 27, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

2. Dependent Claims 28-34 and 71-72

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 27 are patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

H. Claims 35-36 and 73-74 are Not Obvious under 35 U.S.C. § 103(a) in view of Bald, Yu, Kim, and NEC

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1.   **Independent Claim 35**

Referring to independent claim 35, in the Office Action dated February 3, 2009, the Examiner alleges that Bald, Yu, Kim, and NEC in combination with one another disclose all the limitations recited in independent claim 35. On pages 13-14 of the Office Action, the Examiner alleges that Bald discloses a "controller" to "generate image information to be displayed in the zones (fig. 1, items 1-4)." On page 14 of the Office Action, the Examiner alleges that Yu describes "a graphics processing unit to process at least one function of the respective at least one button to be displayed on the screen at a position corresponding to the at least one button (fig. 3)." The Examiner further alleges that Kim discloses:

> a pivot detector to detect a pivot angle of the image display unit and to provide
> the pivot angle detected to the graphics processing unit such that the graphics
> processing unit supplies an image to the image display unit at a same pivot point
> angle as the image display unit at a same pivot angle as the image display unit
> (col. 5, lines 8-11 and fig. 3).

On page 15 of the Office Action, the Examiner alleges that NEC discloses the "right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3)[the menu will be displayed according to the button position]." However, it is respectfully submitted that Bald, Yu, Kim, and NEC, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 35, for at least the following reasons.

Referring to page 6, paragraph 3 of NEC as relied upon by the Examiner, NEC describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, NEC merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not "display[ing] the image" that is "rotated" according to the detected "pivot angle" at a "position close to the at least one button." At best, NEC describes displaying the menu in "Landscape" or "Portrait" modes – not that the menu is displayed in a position that is "rotated" according to the detected "pivot angle" at a "position close to the at least one button."

Therefore, for at least the above reasons, Bald, Yu, Kim, and NEC, whether taken alone

or in combination with one another, fail to teach or suggest, among other things, that "the image display unit displays the image rotated according to the pivot angle at a position close to the at least one button" as recited in claim 35.

For at least the reasons discussed above, since Bald, Yu, Kim, and NEC, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 35, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

2. Dependent Claims 36, 73, and 74

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 27 are patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

I. Claims 37-63 and 75-78 are Not Obvious under 35 U.S.C. § 103(a) in view of Yu, Kim, Pivot Pro, Kim, and NEC

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1. Independent Claim 37

Referring to independent claim 37, in the Office Action dated February 3, 2009, the Examiner alleges that Yu, Pivot Pro, Kim, and NEC in combination with one another disclose all the limitations recited in independent claim 37. On page 16 of the Office Action, the Examiner

alleges that Pivot Pro describes "a detector unit to detect whether the device is in a portrait mode or in a landscape mode (p. 1, para. [001])." The Examiner further alleges that Kim describes that "at least one symbol is displayed which is respectively assigned to the at least one input unit, and wherein the orientation of the at least one symbol is changed in accordance with the result of the detector unit (col. 7, lines 51-55) and (fig. 10)." On page 17 of the Office Action, the Examiner further alleges that NEC discloses the "right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3)[the menu will be displayed according to the button position]." However, it is respectfully submitted that Yu, Pivot Pro, Kim, and NEC, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 37, for at least the following reasons.

Referring to page 1, paragraph 1 of Pivot Pro as relied upon by the Examiner, Pivot Pro describes "software" that "lets you rotate your computer display from landscape to portrait position" – not "a detector unit" to "detect" whether the device is in a "portrait mode or in a landscape mode." Appellant respectfully submits that Pivot Pro fails to teach or suggest "a detector unit" to "detect" a "portrait mode or in a landscape mode" *anywhere*.

Referring to FIG. 10 and col. 7, lines 51-56 of Kim as relied upon by the Examiner, Kim illustrates and describes that "if the user has turned the display panel 1100 by 90 degrees clockwise," the "letters and figures of the on-screen display 1104 are displayed in the normal manner as seen by the user." In other words, Kim describes displaying the on-screen display 1104 "in the normal manner as seen by the user" after the display panel 1100 has been rotated by 90 degrees -- not "at least one symbol" whose "orientation is changed" is "displayed" at a "position close to the at least one input unit." The orientation of the on-screen display 1104 after the display panel 110 has been rotated is unrelated to a "position" that is "close" to the "input unit" (i.e., keypad 1105 of the display panel 1100).

Referring to page 6, paragraph 3 of NEC as relied upon by the Examiner, NEC describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, NEC merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not that the "orientation" of a least one displayed "symbol" is "changed" with the result of the "detector unit." At best, NEC describes displaying the menu in "Landscape" or

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"Portrait" modes – not that the "orientation" of a least one displayed "symbol" is "changed" with the result of the "detector unit" to "detect whether the device is in a portrait mode or in a landscape mode."

Therefore, Yu, Pivot Pro, Kim, and NEC, whether taken alone or in combination with one another, fail to teach or disclose, among other things, "a detector unit to detect whether the device is in a portrait mode or in a landscape mode" and "at least one symbol is displayed which is respectively assigned to the at least one input unit, and wherein the orientation of the at least one symbol is changed in accordance with the result of the detector unit, and the at least one symbol, whose orientation is changed, is displayed at a position close to the at least one input unit" as recited in claim 37.

For at least the reasons discussed above, since Yu, Pivot Pro, Kim, and NEC, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 37, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

2. Dependent Claims 38-47, 75, and 76

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 37 are patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

3. Independent Claims 48

Referring to independent claim 48, in the Office Action dated February 3, 2009, the Examiner alleges that Yu, Pivot Pro, Kim, and NEC in combination with one another disclose all the limitations recited in independent claim 48. On page 19 of the Office Action, the Examiner

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alleges that <u>Pivot Pro</u> describes "detecting a rotated state of the display device (p. 1, para. [001])." On page 20 of the Office Action, <u>Kim</u> describes "controlling the function of the display upon actuation of the at least one input unit (col. 6, lines 10-15)." The Examiner further alleges that <u>NEC</u> discloses the "right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3)[the menu will be displayed according to the button position]." However, it is respectfully submitted that <u>Yu</u>, <u>Pivot Pro</u>, <u>Kim</u>, and <u>NEC</u>, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 48, for at least the following reasons.

Referring to page 1, paragraph 1 of <u>Pivot Pro</u> as relied upon by the Examiner, <u>Pivot Pro</u> describes "software" that "lets you rotate your computer display from landscape to portrait position" – not "detecting" a "rotated state of the display device." Appellant respectfully submits that <u>Pivot Pro</u> fails to teach or suggest "detecting" a "rotated state of the display device" *anywhere*. Moreover, <u>Pivot Pro</u> describes at p. 1, paragraph 1 that "software ... lets you rotate your computer display from landscape to portrait position" – not that "changing an orientation" of at least one "symbol" includes "displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit."

Referring to page 6, paragraph 3 of <u>NEC</u> as relied upon by the Examiner, <u>NEC</u> describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, <u>NEC</u> merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not that the "orientation" of a least one displayed "symbol" is "changed" at a "position close to the at least one input unit." At best, <u>NEC</u> describes displaying the menu in "Landscape" or "Portrait" modes – not that the "orientation" of a least one displayed "symbol" is "changed" at a "position close to the at least one input unit."

Therefore, <u>Yu</u>, <u>Pivot Pro</u>, <u>Kim</u>, and <u>NEC</u>, whether taken alone or in combination with one another, fail to teach or suggest, among other things, "detecting a rotated state of the display device" and "changing an orientation of the at least one symbol" includes "displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit" as recited in claim 48.

For at least the reasons discussed above, since <u>Yu</u>, <u>Pivot Pro</u>, <u>Kim</u>, and <u>NEC</u>, whether

taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 48, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

4.   Dependent Claims 49-62, 77, and 78

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 48 are patentable for at least the reasons set forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

5.   Independent Claim 63

Referring to independent claim 63, in the Office Action dated February 3, 2009, the Examiner alleges that Yu, Pivot Pro, Kim, and NEC in combination with one another disclose all the limitations recited in independent claim 63. On page 23 of the Office Action, the Examiner alleges that Pivot Pro discloses "changing an orientation of the at least one symbol in accordance with an information indicative of a viewing state of the screen, in which the viewing state relates to a rotated state of the screen (p. 1, para. [001]." The Examiner further alleges that NEC discloses the "right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3)[the menu will be displayed according to the button position]." However, it is respectfully submitted that Yu, Pivot Pro, Kim, and NEC, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 63, for at least the following reasons.

Referring to page 1, paragraph 1 of Pivot Pro as relied upon by the Examiner, Pivot Pro describes "software" that "lets you rotate your computer display from landscape to portrait position, making documents, e-mail and web browsing easier to manage" – not "changing an

orientation" of at least one "symbol" in accordance with a "detection of a viewing state of the screen, in which the viewing state relates to a rotated state of the screen." Appellant respectfully submits that <u>Pivot Pro</u> fails to teach or suggest anywhere a "detection" of a "viewing state" of a screen.

Referring to page 6, paragraph 3 of <u>NEC</u> as relied upon by the Examiner, <u>NEC</u> describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, <u>NEC</u> merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not that the "orientation" of a least one displayed "symbol" is "changed" at a "position close to the at least one input unit." At best, <u>NEC</u> describes displaying the menu in "Landscape" or "Portrait" modes – not that the "orientation" of a least one displayed "symbol" is "changed" at a "position close to the at least one input unit."

Therefore, <u>Yu</u>, <u>Pivot Pro</u>, <u>Kim</u>, and <u>NEC</u>, whether taken alone or in combination with one another, fail to teach or suggest, among other things, "changing an orientation of the at least one symbol in accordance with a detection of a viewing state of the screen, in which the viewing state relates to a rotated state of the screen," and "displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit" as recited in claim 63.

For at least the reasons discussed above, since <u>Yu</u>, <u>Pivot Pro</u>, <u>Kim</u>, and <u>NEC</u>, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 63, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

J. Claims 64 and 81-82 are Not Obvious under 35 U.S.C. § 103(a) in view of Yu, Bald, Pivot Pro, and NEC

In order to support an obviousness conclusion under 35 U.S.C. § 103(a), the Examiner is required to make a factual inquiry as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), and as reaffirmed by the U.S. Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S., Apr. 30, 2007). That burden has not been discharged.

1.   Independent Claim 64

With regard to independent claim 64, in the Office Action dated February 3, 2009, the Examiner alleges that Yu, Bald, Pivot Pro, and NEC in combination with one another disclose all the limitations recited in independent claim 64. On page 25 of the Office Action, the Examiner alleges that NEC discloses the "right orientation of the OSM menu can be toggled between landscape and portrait (p. 6, para. 3)[the menu will be displayed according to the button position]." However, it is respectfully submitted that Yu, Bald, Pivot Pro, and NEC, whether taken alone or in combination with one another, do not teach or suggest all of the features as recited in independent claim 64, for at least the following reasons.

Referring to page 6, paragraph 3 of NEC as relied upon by the Examiner, NEC describes that "[t]o toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while the OSM menu is off." In other words, NEC merely describes "toggl[ing] the orientation" of the "menu" between "Landscape and Portrait modes" by pressing a "RESET button" – not that the "orientation" of a least one displayed "symbol" is "changed" at a "position close to the at least one input unit." At best, NEC describes displaying the menu in "Landscape" or "Portrait" modes – not that the "orientation" of a least one displayed "symbol" is "changed" at a "position close to the at least one input unit." Therefore, Yu, Bald, Pivot Pro, and NEC, whether taken alone or in combination with one another, do not teach or suggest, among other things, "displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit" as recited in claim 64.

For at least the reasons discussed above, since Yu, Pivot Pro, Kim, and NEC, whether taken alone or in combination with one another, fail to teach or suggest all of the features as recited in independent claim 64, Appellant submits that the rejection of this claim under 35 U.S.C. § 103(a) is improper and must be withdrawn.

2.   Dependent Claims 81 and 82

A dependent claim is not anticipated if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims. Accordingly, as the independent claim 64 are patentable for at least the reasons set

forth above, it is respectfully submitted that all dependent claims are also in condition for allowance. Appellant submits that in addition to being allowable by virtue of their dependency, each of the dependent claims is also allowable on its own merits by adding novel and non-obvious features.

Conclusion

For at least the foregoing reasons, Appellant respectfully submits that the grounds of rejection of the claim on appeal are in error and should be reversed.

Please charge the fee of $540.00 under 41.20(b)(2) for filing this brief to Deposit Account No. 50-2827. If any further fees are required in connection with the filing of this amendment, please charge the same to out Deposit Account No. 502827.

Respectfully submitted,

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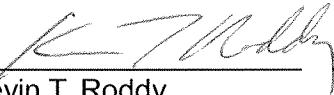
CLAIMS APPENDIX

1.　　(Previously Presented)　　A method of indicating functions of buttons in an image display apparatus, the method comprising:

generating an image indicating functions assigned to the buttons; and

displaying the image on the image display apparatus,

wherein the image is displayed at a position on the image display apparatus close to the buttons, and wherein the displaying of the image on the image display apparatus further comprises:

detecting a pivot angle of the image display apparatus, and

displaying the image rotated according to the pivot angle at a position close to the buttons.

2.　　(Original)　　The method of claim 1, wherein the image is text indicating the functions assigned to the buttons.

3.　　(Original)　　The method of claim 2, wherein the language of the text can be selected by a user.

4.　　(Original)　　The method of claim 2, wherein the image also includes symbols indicating at least one function assigned to at least one respective button.

5-6　　(Canceled)

7.　　(Previously Presented)　　An image display apparatus comprising:

an image display unit;

a graphics processing unit which supplies images displayed by the image display unit;

a controller which sets display parameters of the image display apparatus, has buttons for item selection, and performs operations assigned to the buttons; and

a pivot detector which detects a pivot angle of the image display apparatus and supplies pivot angle data to the graphics processing unit,

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wherein:

the image display unit has zones to display an image indicating functions assigned to the buttons, and the controller generates image information to be displayed in the zones and supplies the image information to the graphics processing unit,

the zones to display an image indicating functions assigned the buttons are displayed at a position on the image display apparatus close to the buttons, and

the graphics processing unit displays the image in the zones rotated according to the pivot angle at a position close to the buttons.

8.   (Canceled)

9.   (Original)   The apparatus of claim 7, wherein the image indicating functions assigned the buttons is text indicating the functions assigned to the buttons.

10-18 (Cancelled)

19.   (Previously Presented)   An image display apparatus having buttons to select items of a display, comprising:

an image display unit including zones to display an image indicating functions assigned to the buttons;

a graphics processing unit to supply images displayed by the image display unit;

a pivot detector to detect a pivot angle of the image display unit and to provide the pivot angle detected to the graphics processing unit such that the graphics processing unit supplies an image to the image display unit at a same pivot angle as the image display unit; and

a controller to set display parameters of the image display apparatus, to perform operations assigned to the buttons, to generate image information to be displayed in the zones and to supply the image information to the graphics processing unit,

wherein the image display unit displays the image in the zones rotated according to the pivot angle at a position close to the buttons.

20.   (Original)   The image display apparatus of claim 19, wherein the zones are in

a close corresponding relationship with the respective button.

21.　　(Original)　　The image display apparatus of claim 19, wherein the functions can be displayed in several different languages.

22.　　(Previously Presented)　　The image display apparatus of claim 19, further comprising:

a button discrimination unit to discriminate which button is pushed.

23.　　(Original)　　The image display apparatus of claim 19, wherein the image is displayed when any one of the buttons is pushed.

24.　　(Original)　　The image display apparatus of claim 19, further comprising a second set of buttons, wherein when the image display unit is pivoted, the zones become in close corresponding relationship with the second set of buttons.

25-26　(Canceled)

27.　　(Previously Presented)　　A method of indicating functions of buttons in an image display apparatus having a screen and a frame with the buttons, the method comprising:

generating one of first functions of a first button and one of second functions of a second button to be displayed on the screen; and

generating sub-functions of at least one of the first and second buttons according to the generated first and second function,

wherein the generating of the one of the first functions comprises simultaneously generating each set of the first and second functions according to activation of one of the first and second buttons.

28.　　(Original)　　The method of claim 27, wherein each of the first functions and the second functions comprises one or more characters, and the generating of the first functions comprises displaying the characters in a direction in which the first and second buttons are arranged on the frame.

29.   (Original)   The method of claim 27, wherein each of the first functions and the second functions comprises one or more characters, and the generating of the one of the first functions comprises displaying the characters in a direction having an angle with an arrangement of the first and second buttons.

30.   (Cancelled)

31.   (Original)   The method of claim 27, wherein the generating of the one of the first functions comprises displaying the one of the first functions and the one of the second functions on corresponding zones of the screen.

32.   (Original)   The method of claim 27, further comprising:
changing one of the first functions to another function corresponding to the first button to be displayed on the screen.

33.   (Original)   The method of claim 27, wherein at least one of the first functions and the second functions is programmable.

34.   (Original)   The method of claim 27, wherein the first functions and the second functions comprises at least one of menu, select, +, -, symbols ↑ or ↓, a format of a signal source, and one of languages.

35.   (Previously Presented)   An image display apparatus having a screen and a frame with at least one button, comprising:
a graphics processing unit to process at least one function of the respective at least one button to be displayed on the screen at a position corresponding to the at least one button;
a pivot detector to detect a pivot angle of the image display apparatus and to provide the pivot angle detected to the graphics processing unit such that the graphics processing unit supplies an image to the image display unit at a same pivot angle as the image display apparatus; and

a controller to set display parameters of the image display apparatus, to perform the at least one function, to generate the at least one function to be displayed on the screen and to supply the at least one function to the graphics processing unit,

wherein the image display apparatus displays the image rotated according to the pivot angle at a position close to the at least one button.

36.   (Original) The image display apparatus of claim 35, wherein the at least one function of the respective at least one button comprises first and second sub-functions, and the generating of the first and second sub-functions comprises selectively generating one of first and second sub-functions according to activation of the respective button.

37.   (Previously Presented)   A device for displaying an image, comprising:
a screen;

a housing having an opening and an outer border surface substantially surrounding the opening, wherein the screen is positioned inside the housing so as to be viewable through the opening;

at least one input unit being positioned on the housing, wherein the actuation of the at least one input unit allows controlling of a function of the display device; and

a detector unit to detect whether the device is in a portrait mode or in a landscape mode,

wherein at least one symbol is displayed which is respectively assigned to the at least one input unit, and wherein the orientation of the at least one symbol is changed in accordance with the result of the detector unit, and the at least one symbol, whose orientation is changed, is displayed at a position close to the at least one input unit.

38.   (Previously Presented)   The device according to claim 37, wherein the detector unit detects the portrait mode or the landscape mode in response to a user rotating the screen.

39.   (Previously Presented)   The device according to claim 37, wherein the at least one symbol comprises at least one icon or text indicating a function of the display device.

40.   (Previously Presented)   The device according to claim 39, wherein the at least one symbol is configured to be displayed on the screen in a location that establishes a visually corresponding relationship between the at least one symbol and the at least one input unit.

41.   (Previously Presented)   The device according to claim 40, wherein the function includes a function to control display parameters of the display device.

42.   (Previously Presented)   The device according to claim 37, wherein the function includes a function to control display parameters of the display device.

43.   (Previously Presented)   The device according to claim 37, wherein the at least one input unit further comprises at least one of group comprising a set of horizontally arranged input keys and a set of vertically arranged input keys.

44.   (Previously Presented)   The device according to claim 37, wherein the at least one symbol is configured to be displayed horizontally and in an upright direction to indicate a respective position and function of the at least one input unit regardless of the portrait or the landscape mode of the display device.

45.   (Previously Presented)   The device according to claim 37, wherein the at least one symbol further comprises an OSD menu having selectable items to adjust the display parameters of the screen, and wherein the OSD menu is configured to be displayed distant from the at least one image.

46.   (Previously Presented)   The device according to claim 37, wherein the at least one input unit is a button.

47.   (Previously Presented)   The device according to claim 37, wherein the at least one input unit is positioned on the outer border surface which is substantially flush with the screen.

48.   (Previously Presented)   A method of controlling a display device having at least one of input unit positioned on a housing of the display device, the method comprising:

displaying at least one symbol on a screen, the symbol indicative of a function to control the display device, the at least one symbol being assigned to the at least one input unit;

detecting a rotated state of the display device;

changing an orientation of the at least one symbol according to the detection of the rotated state of the display device; and

controlling the function of the display device upon actuation of the at least one input unit, wherein changing an orientation of the at least one symbol further comprises:

displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit.

49.   (Previously Presented)   The method as claimed in claim 48, wherein the symbol is a text.

50.   (Previously Presented)   The method as claimed in claim 48, wherein the symbol is an icon.

51.   (Previously Presented)   The method as claimed in claim 48, wherein the determining of the rotated state of the display device determines the rotated state of the display device in response to a user rotating the screen of the display device.

52.   (Previously Presented)   The method as claimed in claim 51, wherein the rotated state is either a portrait or a landscape viewing state.

53.   (Previously Presented)   The method as claimed in claim 48, wherein the function includes at least one function to control a display parameter of the display device.

54.   (Previously Presented)   The method as claimed in claim 53, wherein the function includes one of contrast, brightness, and color control.

55.   (Previously Presented)   The method as claimed in claim 48, wherein the at

least one symbol visually corresponds to at least one input unit.

56.   (Previously Presented)   The method as claimed in claim 48, wherein the at least one input unit is a button.

57.   (Previously Presented)   The method as claimed in claim 48, wherein the at least one input unit is positioned on the display device to be flush with the screen.

58.   (Previously Presented)   The method as claimed in claim 48, wherein the at least one input unit includes a plurality of input units.

59.   (Previously Presented)   The method as claimed in claim 58, wherein the at least one input units are buttons.

60.   (Previously Presented)   The method as claimed in claim 48, wherein the at least one input units includes a plurality of input units disposed in one of a vertical direction and a horizontal direction.

61.   (Previously Presented)   The method as claimed in claim 48, wherein the changing of the orientation of the at least one symbol comprises rotating the symbol substantially 90 degrees.

62.   (Previously Presented)   The method as claimed in claim 48, wherein the respective assignment of the displayed at least one symbol to the at least one input unit remains the same even though the at least one symbol is rotated.

63.   (Previously Presented)   A method of controlling a display device having at least one of input unit positioned on a housing of the display device, the method comprising:
        displaying at least one symbol on a screen, the symbol indicative of a function to control the display device, the at least one symbol being assigned to the at least one input unit;
        changing an orientation of the at least one symbol in accordance with a detection of a viewing state of the screen, in which the viewing state relates to a rotated state of the screen;

and

controlling the function of the display device upon actuation of the at least one input unit, wherein changing an orientation of the at least one symbol further comprises:

displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit.

64.   (Previously Presented)   A method of controlling a display device having at least one of input unit positioned on a housing of the display device, the method comprising:

displaying at least one symbol on a screen, the at least one symbol indicative of a function to control the display device, the at least one symbol being assigned to the at least one input unit;

changing an orientation of the at least one symbol in accordance with a detection of a viewing state of the screen, in which the viewing state relates to a rotated state of the screen; and

controlling the function of the display device upon actuation of the at least one input unit,

wherein the at least one symbol visually corresponds to at least one input unit, the at least one input unit is disposed near the at least one symbol, and the at least one input unit is disposed so as to be substantially flush with the surface of the screen, and

wherein changing an orientation of the at least one symbol further comprises:

displaying the at least one symbol, whose orientation is changed, at a position close to the at least one input unit.

65.   (Previously Presented)   The method of claim 1, wherein at least one of the image and an OSD menu having selectable items to adjust display parameters of the image display apparatus is displayed, when any one of the buttons is pushed.

66.   (Previously Presented)   The method of claim 1, wherein the buttons are disposed on a front frame of the display apparatus.

67.   (Previously Presented)   The method of claim 7, wherein at least one of the image and an OSD menu having selectable items to adjust the display parameters of the image display apparatus is displayed, when any one of the buttons is pushed.

68.   (Previously Presented)   The method of claim 7, wherein the buttons are disposed on a front frame of the display apparatus.

69.   (Previously Presented)   The method of claim 19, wherein at least one of the image and an OSD menu having selectable items to adjust the display parameters of the image display apparatus is displayed, when any one of the buttons is pushed.

70.   (Previously Presented)   The method of claim 19, wherein the buttons are disposed on a front frame of the display apparatus.

71.   (Previously Presented)   The method of claim 27, wherein the generating of the one of the first functions comprises displaying the one of the first functions and the one of the second functions on corresponding zones of the screen, when any one of the buttons is pushed.

72.   (Previously Presented)   The method of claim 27, wherein the buttons are disposed on a front side of the frame.

73.   (Previously Presented)   The method of claim 35, wherein at least one of the image and an OSD menu having selectable items to adjust the display parameters of the screen is displayed, when at least one button is pushed.

74.   (Previously Presented)   The method of claim 35, wherein the at least one button is disposed on a front frame of the display apparatus.

75.   (Previously Presented)   The method of claim 37, wherein at least one of the at least one symbol and an OSD menu having selectable items to adjust display parameters of the screen is displayed when the at least one input unit is actuated

76.   (Previously Presented)   The method of claim 37, wherein the at least one input unit is disposed on a front frame of the display apparatus.

77.   (Previously Presented)   The method of claim 48, wherein at least one of the at least one symbol and an OSD menu having selectable items to adjust display parameters of the screen is displayed when the at least one input unit is actuated.

78.   (Previously Presented)   The method of claim 48, wherein the at least one input unit is disposed on a front frame of the display apparatus.

79.   (Previously Presented)   The method of claim 63, wherein at least one of the at least one symbol and an OSD menu having selectable items to adjust display parameters of the screen is displayed when the at least one input unit is actuated.

80.   (Previously Presented)   The method of claim 63, wherein the at least one input unit is disposed on a front frame of the display apparatus.

81.   (Previously Presented)   The method of claim 64, wherein at least one of the at least one symbol and an OSD menu having selectable items to adjust display parameters of the screen is displayed when the at least one input unit is actuated.

82.   (Previously Presented)   The method of claim 64, wherein the at least one input unit is disposed on a front frame of the display apparatus.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.